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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/803,962

03/19/2004

Jie-Farn Wu

17961-US-PA

6489

31561

7590

06/15/2006

JIANQ CHYUN INTELLECTUAL PROPERTY OFFICE

7 FLOOR-1, NO. 100

ROOSEVELT ROAD, SECTION 2

TAIPEI, 100

TAIWAN

EXAMINER

DUONG, THOI V

ART UNIT

PAPER NUMBER

2871

DATE MAILED: 06/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/803,962

Applicant(s)

WU ET AL.

Examiner

Thoi V. Duong

Art Unit

2871

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 ~~is~~ are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 ~~is~~ are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/12/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of Species II, claims 4 and 17, in the reply filed on January 10, 2006 is acknowledged. However, upon further consideration, claims 3 and 16 are also considered in this office action because their obviousness over the cited prior arts.

Accordingly, claims 1-23 are currently pending in this application and all considered in this office action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3. Claims 1, 2, 4-6, 8 and 9 are rejected under 35 U.S.C. 102(e) as being anticipated by Hattori et al. (Hattori, US 2005/0083460 A1).

Re claim 1, as shown in Figs. 1 and 2, Hattori discloses a display apparatus with a mirror function (paragraph 1), comprising a display (Fig. 2 and paragraph 36), which comprises a transparent substrate 2; and a semi-reflecting layer 6 (semi-transmitting mirror), which is disposed on one side of the transparent substrate 2 (paragraphs 24 and 25).

Re claim 2, the transparent substrate 2 has a first surface (lower surface) and a second surface (upper surface) opposite to the first surface.

Re claim 4, the semi-reflecting layer 6 is disposed on the second surface of the transparent substrate 2.

Re claim 5, the transparent substrate 2 comprises at least one selected from the group consisting of a plastic (flexible) substrate and a glass (rigid) substrate (paragraph 26).

Re claim 6, the semi-reflecting layer 6 comprises a semi-transmitting reflective film 4 made of a metal (aluminum) (paragraph 25).

Re claim 8, the semi-reflecting layer 6 has a radiation transmittance of between about 10% and 90% as shown in "Transmissivity(%)" column in Table 1 in page 3.

Re claim 9, the display shown in Fig. 2 is a liquid crystal display (paragraph 1).

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4. Claims 1, 2, 4-6, 9-12, 15, 17, 18 and 21-23 are rejected under 35 U.S.C. 102(e) as being anticipated by Maeda (US 6,873,099 B2).

Re claim 1, as shown in Figs. 12A, 12B and 13, Maeda discloses a display apparatus 110 with a mirror function (col. 37, lines 37-50), comprising:

a display 111 (liquid crystal display panel) (col. 35, lines 23-27), which comprises a transparent substrate 128 (col. 36, lines 13-26); and

a semi-reflecting layer 131 (semi-transparent reflecting layer), which is disposed on one side of the transparent substrate 128 (col. 36, lines 13-45).

Re claim 2, the transparent substrate 128 has a first surface (lower surface) and a second surface (upper surface) opposite to the first surface.

Re claim 4, the semi-reflecting layer 131 is disposed on the second surface of the transparent substrate 128 as shown in Fig. 12A.

Re claim 5, the transparent substrate 2 is a glass (rigid) substrate (col. 36, lines 13-15).

Re claim 6, the semi-reflecting layer 131 comprises a metal such as Ag or Al (col. 36, lines 27-31).

Re claim 9, the display apparatus 110 shown in Fig. 12 is a liquid crystal display (col. 35, lines 23-27).

Re claim 10, as shown in Figs. 12A, 12B and 13, Maeda discloses a display apparatus 110 with a mirror function (col. 37, lines 37-50), comprising:

a transparent substrate 161;

a first electrode 162, which is disposed on the transparent substrate 161 (col. 36, lines 46-55; see also Fig. 3 where the first electrode 2 is disposed on the transparent electrode 1);

a second electrode 165, which is disposed above the first electrode 162 (from bottom to top of Figs. 12A and 13) (col. 36, lines 46-55; see also Fig. 3 where the second electrode 5 is disposed above the first electrode 2);

a light-emitting zone 164 (light emitting layer), which is disposed between the first electrode 162 and the second electrode 165 (col. 36, lines 46-55); and

a mirror plate 128/131/133, which is disposed on one side of the transparent substrate 161 (upper side) opposite to another side of the transparent substrate 161 (lower side) connected to the first electrode 162 as shown in Fig. 12A (col. 36, lines 13-45).

Re claims 11 and 12, the light-emitting zone 164 comprises at least one organic electroluminescence (EL) layer; see also Fig. 2 where 4G, 4R, 4B are light emitting layers made of organic EL materials (col. 25, lines 21-52).

Re claim 15, the mirror plate 128/131/133 comprises a transparent plate 128 (transparent substrate) and a semi-reflecting layer 131 (semi-transparent reflective layer), and the semi-reflecting layer 131 is disposed on the transparent plate 128 as shown in Fig. 12A (col. 36, lines 13-45).

Re claim 17, the transparent plate 128 is disposed between the transparent substrate 161 and the semi-reflecting layer 131 as shown in Fig. 12A.

Re claim 18, the semi-reflecting layer 131 is made of metal (col. 36, lines 27-31).

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Re claim 21, as shown in Fig. 3, the transparent substrate 1 (which is the same as the transparent substrate 161 in Fig. 12A) is a glass substrate (col. 24, lines 17-26).

Re claim 22, as shown in Figs. 2 and 3, the first electrode 2 (2R, 2G, 2B served as the anode) comprises ITO, which is an electrical conductive metal oxide electrode layer (col. 24, lines 52-62).

Re claim 23, as shown in Figs. 2 and 3, the second electrode 5 is an electrode layer made of aluminum (col. 25, lines 27-29).

5. Claims 1-3, 5, 7, 9, 10, 12-16, 19 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Okumura (US 6,008,871).

Re claim 1, as shown in Figs. 1 and 3a, Okomura discloses a display apparatus with a mirror function (see Abstract and col. 1, lines 8-15), comprising:

a display (liquid crystal display device), which comprises a transparent substrate 106 (col. 6, lines 17-33); and

a semi-reflecting layer 108 (a multi-layered dielectric film as a reflective polarizer), which is disposed on one side of the transparent substrate 106 (col. 6, line 66 through col. 7, line 3).

Re claim 2, the transparent substrate 106 has a first surface (lower surface) and a second surface (upper surface) opposite to the first surface.

Re claim 3, the semi-reflecting layer 108 is disposed on the first surface of the transparent substrate 106 as shown in Fig. 1 (col. 6, lines 17-29).

Re claim 5, the transparent substrate 106 is a glass (rigid) substrate (col. 6, lines 17-29).

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Re claim 7, the semi-reflecting layer 108 comprises a dielectric material (multi-layered dielectric film) as shown in Fig. 2 (col. 6, line 66 through col. 7, lines 49).

Re claim 9, the display apparatus shown in Fig. 1 is a liquid crystal display (col. 6, lines 17-19).

Re claim 10, as shown in Figs. 1 and 3a, Okumura discloses a display apparatus with a mirror function (see Abstract and col. 1, lines 8-15), comprising:

- a transparent substrate 301 (col. 8, lines 1-7);

- a first electrode 302 (transparent electrode), which is disposed on the transparent substrate 301 (col. 8, lines 1-7);

- a second electrode 306 (rear electrode), which is disposed above the first electrode 302 (from bottom to top of Fig. 3a) (col. 8, lines 1-7);

- a light-emitting zone 304 (an EL emission layer), which is disposed between the first electrode 302 and the second electrode 306 as shown in Fig. 3a (col. 8, lines 1-7);

and

- a mirror plate 106/107/108, which is disposed on one side of the transparent substrate 301 (upper side) opposite to another side of the transparent substrate 301 (lower side) connected to the first electrode 302 as shown in Figs. 1 and 3a.

Note that the EL element in Fig. 3a is employed as the backlight assembly 109 of Fig. 1 (col. 8, lines 1-2).

Re claims 11 and 12, the light-emitting zone 304 comprises at least one organic electroluminescence (EL) layer (col. 8, lines 7-10).

Re claims 13 and 14, as shown in Figs. 1 and 3a, the mirror plate 106/107/108 is assembled with and disposed adjacent to the transparent substrate 301 of the backlight assembly 109 since the mirror plate 106/107/108 is a part of the display apparatus.

Re claim 15, as shown in Fig. 1, the mirror plate 106/107/108 comprises a transparent plate 106 (lower glass substrate) and a semi-reflecting layer 108 (a multi-layered dielectric film as a reflective polarizer), and the semi-reflecting layer 108 is disposed on the transparent plate 106 (col. 6, lines 17-33).

Re claim 16, the semi-reflecting layer 108 is positioned between the transparent substrate 301 of the backlight assembly 109 and the transparent plate 106 as shown in Fig. 1.

Re claim 19, the semi-reflecting layer 108 comprises a dielectric material (multi-layered dielectric film) as shown in Fig. 2 (col. 6, line 66 through col. 7, lines 49).

Re claim 21, the transparent substrate 301 is a glass substrate (col. 8, lines 1-7).

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 19 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Maeda (US 6,873,099 B2) in view of Nishimura et al. (Nishimura, US 6,795,145 B2).

Re claim 19, Maeda discloses a display apparatus that is basically the same as that recited in claim 19 except for the semi-reflecting layer made of a dielectric material.

As shown in Figs. 1 and 2, Nishimura discloses a liquid crystal display device comprising a reflection layer 15 (col. 3, lines 53-59 and col. 4, lines 12-18), wherein the reflection layer 15 is made of a dielectric material (col. 4, lines 20-34) and can be used as a transfective film (or a semi-reflecting layer) which reflects a part of the incident light and transmits the other part of the incident light (col. 4, lines 35-38).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the display apparatus of Maeda with the teaching of Nishimura by having the semi-reflecting layer made of a dielectric material in order to obtain a brighter display by transmittance because of the higher light utilization efficiency compared to the LCD device using the aluminum film as the reflection layer (col. 4, lines 56-61).

Re claim 20, Nishimura discloses that the transfective film using the dielectric reflection film is designed to reflect 70% of incident light and transmit the remaining 30% of the incident light (col. 4, lines 51-56), which is within the claimed range of a light transmittance between about 10% and 90%.

8. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hattori et al. (Hattori, US 2005/0083460 A1) in view of Nishimura et al. (Nishimura, US 6,795,145 B2).

Hattori discloses a display apparatus that is basically the same as that recited in claim 7 except for the semi-reflecting layer made of a dielectric material.

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As shown in Figs. 1 and 2, Nishimura discloses a liquid crystal display device comprising a reflection layer 15 (col. 3, lines 53-59 and col. 4, lines 12-18), wherein the reflection layer 15 is made of a dielectric material (col. 4, lines 20-34) and can be used as a transfective film (or a semi-reflecting layer) which reflects a part of the incident light and transmits the other part of the incident light (col. 4, lines 35-38).

Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the display apparatus of Maeda with the teaching of Nishimura by having the semi-reflecting layer made of a dielectric material in order to obtain a brighter display by transmittance because of the higher light utilization efficiency compared to the LCD device using the aluminum film as the reflection layer (col. 4, lines 56-61).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thoi V. Duong whose telephone number is (571) 272-2292. The examiner can normally be reached on Monday-Friday from 8:30 am to 4:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Nelms, can be reached at (571) 272-1787.

Thoi V. Duong



06/12/2006